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ABSTRACT

Intended for projects in the Handicapped Children's Early Education Program (HCEEP) network, the directory presents information on applications of microcomputer technology. The first major section documents microcomputer use in HCEEP projects, noting instructional as well as administrative applications. Brief descriptions focus on major projects or commitments of time and effort, innovative or helpful uses of technology, and products or processes developed by the project and available to be shared with others. Instructional uses include computer assisted as well as computer managed instruction, while administrative applications include data management and analysis, tracking and referral systems, and budget management/cost analysis procedures. The second portion of the document describes resources throughout the United States that can support projects' use of microcomputers and inform them about current developments in this expanding area of special education technology. Technical assistance and software evaluation projects are among those noted. (CL)

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MICROCOMPUTERS
for Early Childhood Special Education

by Joicey Hurth

Managing Editor: Daniel Assael

EC182079

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Helene Corradino, Project Officer to TADS, Office of Special Education Programs U.S. Department of Education

Pascal L. Trohanis, TADS Director and Principal Investigator

September 1985

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INTRODUCTION

At a recent conference, a presenter was asked to suggest the best way to get information about expanding the use of a microcomputer system and finding the appropriate software and hardware for a given application. His reply: "Well, you can ask your dealer, read software manuals, or call your mom, but you'll make some expensive mistakes. The best way is to find someone who's doing a like task with similar equipment, and ask questions."

This directory has been developed in that spirit -- to help projects in the Handicapped Children's Early Education Program (HCEEP) network identify contacts who are actively involved in the many microcomputer applications that can facilitate project management or enhance the instruction of young handicapped children.

There are two major sections in this directory. The first describes a variety of applications of microcomputer technology in HCEEP projects. The second section describes resources, located across the country, that can support projects' use of microcomputers and inform them about currrent developments in this rapidly expanding area of special education technology.

HCEEP project staff members who participated in the development of this directory, and personnel from many of the listed resources, were extremely helpful and cooperative. Their readiness to provide information, coordinate efforts, and share their work was evident. Readers are encouraged to contact one another for details on applications, product availability, and other questions.

MICROCOMPUTER USE IN HCEEP PROJECTS

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MICROCOMPUTER USE IN HCEEP PROJECTS

Projects indicating that they used microcomputers were surveyed to gather information on the various applications of microcomputer technology relevant to HCEEP projects. Applications were categorized as either instructional or administrative and defined as follows:

1. Instructional Applications

    1.1 Computer-Assisted Instruction: children interacting with computers -- instructive/adaptive/augmentative uses; family involvement; computer games, toys, robots; etc.

    1.2 Computer-Managed Instruction: teachers/staff interacting with computers -- diagnostic/prescriptive uses, curriculum development, individual education plan development, child assessment for instructional purposes; etc.

    1.3 Training: professionals interacting with computers -- learning to use or program the computer, teacher or staff training, etc.

2. Administrative Applications

    2.1 Data management and analysis: program evaluation, record keeping, child assessment for evaluation purposes, etc.

    2.2 Tracking systems, registrars, directories, etc.

    2.3 Budget management, cost analysis, accounting, etc.

    2.4 Applied word processing: file storage, report generation, mailing lists, etc.

    2.5 Communication

    2.6 Demonstration/dissemination

The 31 HCEEP projects responding to the survey included demonstration projects, outreach projects, and state implementation and state planning grantees. Table 1 (pages 10-11) lists participating projects (alphabetical by state and city) and the different ways they make use of their microcomputers. The type of project, name, address, contact person, telephone, SpecialNet user's code (see page 40 for a description of SpecialNet), and type of microcomputer used appear on the Contact List of Participating HCEEP Projects (see page 23). Participating HCEEP projects selected and described applications that involve:

- A major project focus or commitment of time and effort.

- An innovative or especially helpful use of technology.

- A product or process developed by the project and available to be shared with others.

Categories of applications reflect different project tasks that can be facilitated by microcomputer use. However, the categories are not entirely discrete. For example, a computerized tracking system or directory may be categorized as a specialized use of a data management system. Software and type of computer used by projects is included in the descriptions of applications.

The descriptions of applications are not exhaustive. Indeed, all projects do more with computers than can be described here. Typically, once a project has a microcomputer, its adminstration and staff continue to expand the ways in which it is used.

This directory provides examples of how computers are used to help young handicapped children learn and to help make administrators and direct service staff more efficient and effective. Information is provided on some innovative uses of technology in HCEEP, and project-developed products or processes that can be disseminated are identified. Readers are encouraged to call project contact people (see page 23) and discuss details of applications of interest.

Table 1

Microcomputer Applications in HCEEP Projects

PROJECTS	APPLICATIONS: Instruction 1.1 CAI	1.2 CMI	1.3 Training	Administration 2.1 Data Management	2.2 Tracking Directories	2.3 Budget	2.4 Word Processing	2.5 Communications	2.6 Other: Demo/Diss
INTACT San Diego, California				X	X		X		
CRIIAP Athens, Georgia			X	X	X	X	X		X
Developmental Therapy Athens, Georgia				X		X	X		
ACTT Macomb, Illinois	X	X	X	X	X	X	X	X	
Macomb 0-3 Macomb, Illinois		X	X	X	X	X	X	X	
IN-DEEP Bloomington, Indiana	X	X	X	X		X	X	X	
Transitions Lawrence, Kansas		X	X	X	X	X	X	X	
PREP-EDD Parsons, Kansas	X	X		X			X	X	
INTERCHANGE Winfield, Kansas				X	X	X	X		
State Implementation Grant Baltimore, Maryland			X						
RIP Woodhaven, Minnesota		X		X					
Dakota Mendota Heights, Minnesota				X		X			
Clay County Moorhead, Minnesota		X	X		X	X	X	X	

State Plan Grant Hattlesburg, Mississippi				X	X		X	X
Mainstreaming Kansas City, Missouri			X			X	X	X
Early Referral Omaha, Nebraska				X	X			
COPING Edison, New Jersey				X	X	X	X	
State Plan Grant Saipan, Northern Marianas				X	X	X	X	X
Social Communication Interv. Akron, Ohio		X	X	X			X	X
Early Intervention Eugene, Oregon		X					X	
HAPPY Allentown, Pennsylvania				X		X	X	
KIDS Hollidaysburg, Pennsylvania								X
PREP Pittsburgh, Pennsylvania		X		X			X	
Infant/Toddler Nashville, Tennessee	X	X		X			X	
Preschool/O&M Nashville, Tennessee	X	X		X			X	
Functional Mainstreaming Logan, Utah				X	X	X	X	X
PTP Logan, Utah				X		X	X	
Parent-to-Parent Richmond, Virginia				X	X	X	X	
CAP Seattle, Washington		X	X	X			X	X
PEPSI Clarksburg, West Virginia		X	X	X	X		X	X
Portage Madison, Wisconsin			X		X	X	X	X

1. Instructional Uses

1.1 Computer-Assisted Instruction: Children Using Computers

Three demonstration projects (listed below) described applications of microcomputers in the instruction of children. Two other projects, PREP-EDD, Parsons, Kansas, and the Preschool Orientation and Mobility Project, Nashville, anticipate involving their children with computer use before the end of their demonstration period.

Activating Children Through Technology (ACTT), Macomb, Illinois

The major focus of ACTT is to develop and demonstrate a microcomputer curriculum model to foster the child's expectations of control in the environment; to enhance communication; and to develop autonomy, problem-solving, and other selected preschool skills. For children with severe physical or sensory handicaps, the project has customized use of switches, switch-operated toys, keyboards, voice synthesizers, music synthesizers, robots, and other peripherals. Activities used to evaluate the effects of the children's interactions with the computer have involved videotaping, coding and analyzing computer-use behaviors, and using single-subject and control-group/experimental-group comparisons.

Products: The Looker program for an Epson HX-10 can be used to code and enter designated behaviors during observations by type of behavior, number, and frequency; summary reports can be printed or up-loaded to other computers. The ACTT Starter Kit; I Don't Know Much About Robots, a children's book; a game port input box (allows single-switch access to commercial software); and reviews of equipment and preschool instructional software are available.

* * *

The Infant/Toddler Learning Project, Nashville, Tennessee

This project is investigating the application of a microcomputer-monitored teaching environment for developing and shaping gross motor skills in children with severe handicaps. The teaching environment combines the principles of dynamic positioning with the use of on/off microelectric switches to shape movement behaviors. Instead of selecting a switch that is easily activated, the teacher selects a switch that is activated only when the child is correctly performing the movement being taught.

Products: The Switch Monitor software activates a toy and records child performance data by monitoring switch closure. Session length, types of switches and toys, and the length of time before verbal or physical prompts are provided, and the reinforcement (amount of toy-play) per switch closure can be controlled and recorded. The number and duration of switch closures and percent of session time during which the switch was closed can be sum-

marized, graphed, and saved in files compatible with Aimstar, a commercial behavioral data management program.

* * *

Indiana Network for the Development of Early Education Programs (IN-DEEP), Bloomington, Indiana

The microcomputer is designed to promote self-motivated exploration. Use of interactive software allows children to make decisions, carry out their plans, and quickly review the outcomes of their actions. Evaluation of commercial software has included investigation of handicapped children's and teachers' ratings, selection, and use of different types of software. Preliminary findings suggest that problem-solving interactive software may be more engaging than the prevalent drill and practice software.

Products: software reviews, an evaluation form, a checklist for coding children's behavior on the computer, and references on computer use in early childhood special education are available.

* * *

New HCEEP Demonstration Projects. Three projects beginning their grants in 1985 have an emphasis on instructional uses of microcomputers.

Project Participate
Department of Psychology
University of Nebraska
Omaha, Nebraska 68182

Contact: Steve Rosenberg
(402) 397-9150

Features: Use of microcomputer activities in public preschool and home-based settings.

* * *

Computer Video-Assisted Program
Nevada State Department of Human Resources
Division of MH/MR
480 Galletti Way
Sparks, Nevada 89431

Contact: Marilyn Walter
(702) 789-0284

Features: Computer/video-assisted learning.

* * *

Special Friends and Computer Project
4635 Union Road
Cheektowaga, New York 14225

Contact: Susan Zippiroli
(716) 633-4448

Features: Computer-based learning and mainstreaming.

1.2 Computer-Managed Instruction: Teachers and Staff Using Computers

The first three projects listed below have developed computerized curricula. Other projects (listed alphabetically by state) exemplify other ways computers facilitate management of instruction.

Transactional Intervention Program (TRIP), Woodhaven, Michigan

TRIP has developed a program for Apples to enhance interactions between parents and children. The program matches developmental skills with appropriate interactive activities and gives data on mother-child turn taking, global maternal style, and interactive match. The program produces recommendations for modifying patterns of interaction between mother and child.

* * *

Computer-Assisted Program (CAP), Seattle, Washington

CAP has adapted dBase II to provide individualized curricular activities for home implementation by rural families. Parents assess their children using an adaptation of the Early Intervention Development Profile. When assessment data is entered, the computer displays appropriate home activities in the developmental domains. The computer then generates teacher-selected activities organized by normal daily routines (e.g. bathtime, nap, etc.).

* * *

The PEPSI Project, Clarksburg, West Virginia

PEPSI has adapted Keystroke for the Apple III to produce a curriculum with a "method card" format to facilitate interactions between parents and children. Cards contain step-by-step instructions for parents. Method cards are indexed and cataloged by type of skills required and developmental age.

Products: a description of required programming and a Staff Training Manual.

* * *

Macomb 0-3 Outreach Project, Macomb, Illinois

This project has developed CORE (Computer Oriented Record-keeping Enabler) for the Macomb 0-3 curriculum. CORE runs on Apples and can create and store goals and objectives for individual education plans, manage individual performance records, and print hard copies.

* * *

IN-DEEP, Bloomington, Indiana

IN-DEEP is developing a program called CIMS (Computer Instructional Management System) for Apples which stores and summarizes data on individual children (e.g., demographic data, long- and short-term objectives, student performance data, and progress towards goals). The program provides full summary reports or prints selected sections (e.g., language goals and progress data).

* * *

Parson's Regional Early Intervention Program: Evaluation, Demonstration and Dissemination (PREP-EDD), Parsons, Kansas

An instructional management program is being developed for the IBM PC. Program capabilities include storing and summarizing child assessment data, creating and revising individual education plans, and managing curriculum objectives. A tickler feature stores and retrieves targeted dates for re-evaluation, conferences, etc.

* * *

Model Early Intervention Program to Develop a Linked Evaluation Programming System, Eugene, Oregon

An Evaluation Programming System (EPS) computer program for Apples is being developed to correspond with the EPS criterion-referenced assessment instrument. The program stores child assessment data, generates individual education plans, provides individual child skill profiles, and performs statistical analysis of progress data.

* * *

Infant/Toddler Programs, Nashville, Tennessee

The project has developed the Aimstar Data Collector for Radio Shack 100 portable computers to collect child performance data on rate, duration, and accuracy during observations. Data can be printed or transferred to the Apple II computer for management by Aimstar, a commercial package.

1.3 Training

Several projects provide training and consultation on microcomputer use in special education (Macomb projects, Illinois; IN-DEEP, Bloomington, Indiana; CAP, Seattle, Washington). The Maryland state implementation grant project maintains a technology resource file on applications, consultants, and materials.

The Portage Project, Wisconsin, reports extensive use of the microcomputer to facilitate preparation for outreach training. Recommendations include:

- Use of Think-Tank, by Living Video Text, Inc., an outlining program that allows hierarchical arrangements of headings and subheadings with test and easy revision or rearrangement.
- Use of public domain software to format transparencies.
- Use of word processing programs with printers set for double-width characters to develop charts, graphs, text, etc., for transparencies.

2. Administrative Applications

2.1 Data Management and Analysis

Most projects indicated that they use their computers for a variety of data management and analysis tasks. Descriptions of their management systems or their products provided in this section exemplify how project management, program evaluation, and report generation can be facilitated by computers. A variety of commercial software programs are used, and some are customized for specific needs.

Planning School Transitions, Lawrence, Kansas

This project is using data management and analysis programs such as Lotus 1-2-3 and dBase III to handle extensive interview data on teacher expectations and family needs. Data files were created to allow a variety of comparisons between subject groups and across interview items.

* * *

Parson's Regional Intervention Program: Evaluation, Demonstration, and Dissemination (PREP-EDD), Parsons, Kansas

PREP-EDD uses PFS and dBase III on the IBM PC to monitor and manage child progress and other program evaluation data. Child files are updated continuously to allow monitoring of individual education plans, progress towards goals, and target dates for follow-up activities. Files are integrated so data can be aggregated across children. Report capacities include number of programs achieved per child, number of minutes of instruction required to attain specific skill objectives, graphs on child progress, and trend analysis.

* * *

Helping Achieve Potential of Preschool Youngsters (HAPPY), Allentown, Pennsylvania

At Project HAPPY, the DB Master program and Apples are used to manage data on children, staff development, parent participation, and other community contacts. The data base allows documentation of types of contacts and initiator of contacts with parents and the community. For data analysis, the program can send student data directly to A-STAT, a compatible statistical analysis program. The same data base will be used for longitudinal follow-up on project children.

* * *

Preparation for Regular Education Placement (PREP), Pittsburgh, Pennsylvania

Project PREP has developed Entry and Graph, a management and analysis program which currently runs on a mainframe DEC 1099 computer but is being adapted for use on the IBM PC by early 1986. The system manages and graphs daily progress data and accommodates methods and analyses appropriate to single-subject studies. Aggregated data can be up-loaded to mainframe for further analyses by the SPSS/SAS program.

* * *

Functional Mainstreaming for Success, Logan, Utah
Preschool Transitions Project (PTP), Logan, Utah

The projects report use of the Management and Monitoring (M&M) system developed by colleagues Thorkildsen and Fifield at Utah State. The system allows monitoring of project progress according to goals and objectives. Rather than requiring separate software or programming, the system offers a format to use on most commercially available word processing software. The M&M system is basically a data file in which specific tasks are entered according to project goals and responsible persons; initiation dates and projected and actual completion dates can be monitored and updated.

* * *

Providing Educational Programs to Special Infants (PEPSI), Clarksburg, West Virginia

The PEPSI project has developed a data management system using the Keystroke Data Base Manager and Report Generator with an Apple III. Data files were formatted for data relevant to client programming. The system allows generation of intake, individual education plans, and program summary reports on a routine basis for decision making and program evaluation purposes. A user's manual will be developed for system replication by 1987.

* * *

Other Projects

HCEEP outreach projects in Athens, Georgia, and Portage, Wisconsin, report using IBM PCs to manage data on replication sites, for training activities, and to facilitate report and grant writing. Developmental therapy (Athens, Georgia) has customized the dBase II program to file and analyze child demographic and pre-post data from all model replication sites. Workshop evaluation data can be summarized with dBase II and Wordstar by training event, type or topic of training, location, and evaluation questions; information can also be aggregated over the year's work.

2.2 Tracking Systems, Directories, and Referral Systems

Three demonstration projects described a computerized resource directory developed as a service to parents and the community. Project PEPSI in Clarksburg, West Virginia, developed a system using Keystroke and an Apple III to monitor referrals and impact of dissemination efforts. From the state level, Delaware provided an example of a computerized statewide tracking system, and Mississippi shared information on its matrix of agencies and a local resource directory.

Infant Interagency Network Through Accessing Computer Technology (IINTACT), San Diego, California

This project has developed Search Line, a program on dBase II, using an Apple IIe to list and update description of services in the San Diego area for high-risk and handicapped infants and their families. The directory can be searched according to specific service needs or information requests.

* * *

The Contingency Response Intervention for Infants of Adolescent Parents (CRIIAP), Athens, Georgia

This project has developed a computerized directory describing community service agencies in a 10-county area for use by project families and distribution to all agencies and area physicians. The program runs on the Informix/Unix system for the AT&T Fortune computer.

* * *

The Parent-to-Parent Monitoring Project, Richmond, Virginia

This project has developed their community resources file on Appleworks.

* * *

Delaware State Department of Education

Delaware is developing a computerized, statewide, interagency tracking system for all high-risk and handicapped children birth to age 5 years. Currently, all public and private agencies and hospitals have microcomputers linked to the State Department of Education's VAX mainframe computer via an MS/DOS translation board. The dBase III program is used to monitor the following types of data on handicapped infants: child identifiers and diagnosis, school district, date of entry to the service system, current service record, referrals, and services received. A tickler is built into the system so that each case file is reviewed every six months, thereby preventing children from "getting lost" in the service system. Aggregated tracking data can be used for state needs assessments and program planning efforts. A management board with interagency and parent representatives is appointed by the governor to provide policy and regulation for the system.

* * *

The State Planning Grant Project, Hattiesburg, Mississippi

This project has two current computerized projects both using Display Write with an IBM. At the state level, they have developed a matrix of the agencies serving young handicapped children with information concerning mandates, roles, monies, etc. The local interagency council, representing services in a county-wide area, has developed an indexed Local Resource Directory for distribution to appropriate service providers.

2.3 Budget Management/Cost Analysis

Most projects surveyed manage their budget through their fiscal agency's budget system. However, several projects report that they also need to manage the budget at the project level to have more timely information on expenditures. This is particularly true for projects who have support from several different sources or grants. Projects report using standard spreadsheet programs such as Supercalc 3, Lotus 1-2-3, or Appleworks.

Project Dakota, Mendota Heights, Minnesota

This project has developed a cost analysis system that monitors costs of various project services, costs per child, and staff time allocations per child by type of service. Staff members code each unit of client-oriented activity throughout the week by length, location, and nature of contact. A print description of the system is available from the project. The specific software is not available, but commercial "time and activity" software can be used to create a similar system.

2.4 Word Processing

Virtually all projects with a microcomputer use word processing programs. It is often the first application for projects just getting involved with the technology. The range of uses word processors can have in HCEEP projects includes making "personalized" form letters and mailing lists; report, grant, and professional writing; keeping updated calendars of community or project events; maintaining narrative evaluation data, progress notes, and field notes; and developing dissemination products, awareness mailings, and standard answers to frequent questions. Projects recommended the following software: Appleworks, Display Writer, the Handler Package, MacGraph, MacWrite, PFS Write, Pie Writer, Supertext, and Wordstar.

2.5 Communication

Most projects surveyed have subscriptions to national on-line telecommunication services such as SpecialNet, the Source, or CompuServe (see Resource Directory section for descriptions of on-line services). Of the 32 projects that participated in the survey, 19 have SpecialNet user codes (see pages 23-25). Some projects offered descriptions of other computer-assisted and computer-relevant communication efforts.

Activating Children Through Technology (ACTT), Macomb, Illinois
Macomb 0-3 Project, Macomb, Illinois

The Macomb projects have established an electronic bulletin board called USER's NET, for parents, educators, and programmers interested in the use of microcomputers in special education. A membership list and descriptive information are available.

* * *

The KIDS Project, Hollidaysburg, Pennsylvania

This project has found computer-assisted communication particularly efficient for their six-county rural service area. The state, through its technical assistance group, Right to Education, provided the KIDS coordinator and each rural school district served by the project a subscription to SpecialNet and training to use it to access state and national information, electronic mail among project sites, and linkage of project administrators for budget and other data exchanges.

* * *

Providing Educational Programs to Special Infants (PEPSI), Clarksburg, West Virginia

The PEPSI project publishes the HCEEP Micro Computer News quarterly in an effort to improve communication among computer users in the network. Articles are solicited from members. Readers are urged to write the project to be included on the mailing list.

* * *

The Portage Project, Portage, Wisconsin

This outreach project reports extensive use of computer-assisted communication in connecting to other micros, databases, and bulletin boards. For communication with distant training sites (e.g., Alaska) the use of SpecialNet is much less expensive than phone calls and quicker than mail. The director reports that using local bulletin boards is a means of requesting free technical information from other users. Most major cities have active boards. User groups or computer journals often list information on available bulletin boards.

2.6 Demonstration/Dissemination

Contingency Response Intervention for Infants of Adolescent Parents (CRIIAP), Athens, Georgia

CRIIAP is developing a unique project manual on disk for Apples and MacIntosh computers. The program will provide a narrative, graphic, and animated description of project intervention approaches, services, and procedures. For examples of intervention, animated sequences will "act out" appropriate maternal responses to infant behaviors.

Contact List of Participating HCEEP Projects

Demonstration Project: Project IINTACT
Department of Special Education
San Diego State University
6505 Alvarado Road, Suite 208
San Diego, CA 92182

Contact: Eleanor Lynch (619) 286-2467
Computers: Apple IIe & IIc

State Grant: Lake Forest Elementary School
Felton, DE 19943

Contact: Deborah Ritter (302) 736-4557
Computers: IBM-PC & VAX Mainframe

Demonstration Project: Project CRIIAP
Northeast Georgia Health District
468 North Milledge Avenue
Athens, GA 30610

Contact: Wendy Sanders (404) 542-8784
SpecialNet: CRIIAP
Computers: AT&T Fortune, Callan, Corvus

Outreach Project: Rutland Center Developmental Therapy Model Outreach Project
University of Georgia
125 Minor Street
Athens, GA 30606

Contact: Karen R. Davis (404) 542-6076
Computers: IBM-PC

Demonstration Project: Project ACTT
27 Horrabin Hall
Western Illinois University
Macomb, IL 61455

Contact: Patti Hutinger (309) 298-1634
SpecialNet: WILU
Computers: Apple IIe, II+, Macintosh, Epson NX-20

Outreach Project: Macomb 0-3
27 Horrabin Hall
Western Illinois University
Macomb, IL 61455

Contact: Patti Hutinger (309) 298-1634
SpecialNet: WILU
Computers: Apples, Macintosh, Epson NX-20

Demonstration Project: IN-DEEP
Center for Innovation in Teaching the Handicapped
2805 E. 10th Street
Bloomington, IN 47401

Contact: Barbara Fazio (812) 355-5847, -9761
Computers: Apples

Demonstration Project: Planning School Transitions
Bureau of Child Research
University of Kansas
223 W. Haworth
Lawrence, KS 66045

Contact: Susan Fowler (913) 421-6550
SpecialNet: KSTRANSITION
Computers: Apple IIc, 2-100, KayPro

Demonstration Project: PREP-EDD
Bureau of Child Research
Parsons Research Center
Parsons, KS 67357

Contact: Valerie J. McNay
SpecialNet: KSPARSONS
Computers: Apple & IBM-PC

Demonstration Project: Project INTERCHANGE
PO Box 548
Winfield, KS 67156

Contact: Ron Pasmore (316) 221-1200
Computer: IBM-PC

State Grant: State Department of Education
Division of Special Education
200 West Baltimore Street
Baltimore, MD 21201

Contact: Nancy Vorobey (301) 659-2498
Computers: Apple IIc & IIe

Demonstration Project: Project TRIP
Bates Elementary School
22811 Gudith
Woodhaven, MI 48183

Contact: Jerry Mahoney (313) 763-0650
Computer: Apple IIe

Demonstration Project: Project Dakota
Developmental Learning Center
750 South Plaza Drive
Mendota Heights, MN 55120

Contact: Linda Kjerland (612) 455-2335
Computer: Wang

Demonstration Project: Clay Co. Coordinated Preschool
Lommen Hall
Moorhead State University
Moorhead, MN 56560

Contact: Robyn Widley (218) 236-2006
SpecialNet: MOORHEAD.PRESCHOOL
Computer: Apple IIc

State Grant: Mississippi University Affiliated Program
S.S. Box 5163
Hattiesburg, MS 39406-5163

Contact: Rebecca Wilson (601) 268-7309
SpecialNet: UAPUSM
Computer: IBM-PC

Demonstration Project: Mainstreaming and Transitioning Using Trained Volunteers
UMKC--UAF
2220 Holmes
Kansas City, MO 64108-2676

Contact: Winnie Dunn (816) 474-7770
SpecialNet: UAF.MO
Computers: Apple II+, & NEC-PC8000

Demonstration Project: Early Referral and Follow-Up Program
Meyer Children's Rehab. Institute
444 South 44th Street
Omaha, NE 68131

Contact: Corry Robinson (402) 559-7451
Computer: Apple II+

Demonstration Project: Project COPING
Pediatric Rehabilitation Dept
John F. Kennedy Medical Ctr
2050 Oak Tree Road
Edison, NJ 08820

Contact: Margery Szczepanski (201) 548-7610
Computers: [will be sent]

State Grant: Early Childhood Planning Project
Lower Base
Saipan, Northern Mariana Islands

Contact: Daniel H. Nellsen (670) 9956
SpecialNet: COM.SE
Computers: Macintosh & Lisa by Apple

Demonstration Project: Social Communication Intervention Model
Children's Hospital Medical Center
281 Locust Street
Akron, OH 44308

Contact: Pip Cambell (216) 923-4535
SpecialNet: CHMC.AKRON
Computers: Apples, IBM-PC, & Commodores

Demonstration Project: Early Intervention Program
Center on Human Development
901 East 18th Street
Eugene, OR 97403

Contact: E. J. Bailey (503) 686-3568/3591
Computer: Apple IIe

Demonstration Project: HAPPY
31 South Penn Street
P. O. Box 328
Allentown, PA 18105

Contact: Lillian Kerns (215) 820-2076
Computer: Apple

Demonstration Project: KIDS
227 Bedford Street
Hollidaysburg, PA 16648

Contact: Karen Morra (814) 695-5643
SpecialNet: KMORRA
Computers: Apple

Demonstration Project: Project PREP
Western Psychiatric Institute and Clinic
3811 O'Hara Street
Pittsburgh, PA 15213

Contact: Scott McConnell (412) 624-1703
Computer: IBM-PC

Demonstration Project: Preschool Orient. & Mobility Project for Visually Impaired Children
Box 328
Peabody College, Vanderbilt Univer.
Nashville, TN 37203

Contact: Deborah Cochran (615) 322-8164/8182
SpecialNet: PCVUSPECIALED.
Computer: Apple IIe

Demonstration Project: Infant/Toddler Learning Project
Box 328
Peabody College
Vanderbilt University
Nashville, TN 37203

Contact: Steve Warren (615) 322-8277
SpecialNet: PCVUSPECIALED.
Computer: Apple IIe

Demonstration Project: Functional Mainstreaming
Utah State University
The Development Center
UMC 68
Logan UT 84322

Contact: Seb Strlefel (801) 750-2039
SpecialNet: UTA.USU
Computers: Apple, Lisa

Demonstration Project: Preschool Transition Project
Utah State University
The Developmental Center
UMC 68
Logan, UT 84322

Contact: Sarah Rule (801) 750-1926
SpecialNet: UTA.USU
Computers: Apple, Lisa

Demonstration Project: Parent-to-Parent Monitoring
1314 W. Main Street
Division of Educational Services VCU
Richmond, VA 23284

Contact: M. B. Bruder (804) 257-1851
SpecialNet: OTTO
Computers: Apple

Demonstration Project: CAP Project
EEU WJ-10
University of Washington
Seattle, WA 98195

Contact: Amy Schlater (206) 543-4011
Computers: Wang-PC w/ IBM emul. board

Demonstration Project: Project PEPSI
Summit Center for Human Development
6 Hospital Plaza
Clarksburg, WV 26301

Contact: Chris Hanson (304) 623-5661
Computer: Apple III

Outreach Project: Portage Project
CESA 12
PO Box 564
Portage, WI 53901

Contact: George Jeslen (608) 742-8811
SpecialNet: PORTAGEPROJECT
Computer: IBM-PC

RESOURCE DIRECTORY

SECTION TWO CONTENTS

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Resources in this directory were selected to support the use of microcomputers by HCEEP projects. Resources of general education and technology were included only when they offered information relevant or adaptable to HCEEP applications.

NON-HCEEP PROJECTS

Artificial Intelligence Applications in Special Education: How Feasible?
Utah State University
UMC-14
Logan, Utah 84322

Contact: Alan Hofmeister, Director
(801) 753-7973

A feasibility study is being conducted to determine if the tools associated with artificial intelligence can be efficiently applied to problems in special education. Products: literature reviews, a prototype model of an expert system, and suggested applications in special education.

* * *

Family-Child Learning Center
3rd and Broad Streets
Cuyahoga Falls, Ohio 44221

Contact: Pip Campbell
(216) 923-4535

The microcomputer is used as a learning tool by handicapped, at-risk, and normally developing children. Severely handicapped children are trained to use switches. Products: software for a Commodore VIC20 to train young handicapped children to activate switches and access the computer.

* * *

The Handicapped Children's Computer Cooperative Project (HCCCP)
7938 Chestnut
Kansas City, Missouri 64132

Contact: Michael Rettig
(816)363-4606

Computer-assisted instruction is provided to young handicapped children. Research has focused on a) developing access devices (alternatives to the keyboard); b) identifying the prerequisites children need before using the microcomputers; c) evaluating children's use behaviors and instructional software. Products: Micro Scope, a free quarterly newsletter; lists of references and resources ($1.50 each for separate lists, or $10 for a set including a list of available software for preschool children and a bibli-

ography on educational technology at the preschool level); a junction box ($28) for the Apple IIe which allows use of adaptive switches with commercial software. Workshops and consultations are available by project staff.

* * *

Interactive Microcomputer-Videodisc System for Teaching Reading and Writing to Young Hearing Impaired Children

Pennsylvania State University
Division of Special Education and Communication Disorders
207 Old Main
University Park, Pennsylvania 16802

Contact: Philip Prinz
(814) 863-2018
Keith Nelson
(814) 863-1747

This project is investigating the effectiveness of an interactive microcomputer-videodisc system for improving reading and writing skills in young deaf children. Products: an in-service training model and the microcomputerized videodisc system.

* * *

Microcomputer Software for Individually Managed Instruction

Denver Research Institute
P. O Box 10127
University of Denver
Denver, Colorado 80210

Contact: Joseph Lamos
(303) 871-2271

Johns Hopkins University
Applied Physics Laboratory
34th and Charles Streets
Baltimore, Maryland 21218

Contact: Paul Hazan
(301) 953-7100

Kent State University
Department of Special Education
401 White Hall
Kent, Ohio 44242

Contact: Robert Zuckerman
(216) 672-2477

Three separate programs are developing, evaluating, and field-testing an authoring system for special education teachers who do not have programming skills. The programs will be used to produce individualized instruction for handicapped children. Products: software for use on commercially available computers.

* * *

Microcomputer Use in Special Education: Project MUSE
27 Horrabin Hall
Western Illinois University Contact: Patti Huttinger
Macomb, Illinois 61455 (309) 298-1072

MUSE trains special educators to use microcomputers as teaching tools in their classrooms; offers in-service training and consultation; identifies, evaluates, and catalogues appropriate software, hardware, and peripherals (Apple or Apple-compatible computers); and offers graduate level courses that prepare special educators to train their colleagues to use microcomputers with handicapped students. Products: MUSE News, a biannual newsletter; the USER'S Network, an electronic mail service/bulletin board for computer users, educators, and program developers interested in use of microcomputers in special education; The Software Thesaurus, a review of special education software for Apples; Peripherals for Apple II Computer Family; and The MUSE Trainer Kit, an introduction to materials and techniques used by MUSE staff.

* * *

Technology to Enhance Education
University of Washington
College of Education Contact: Joseph Jenkins
Seattle, Washington 91895 (206) 543-4011

This project develops, field-tests, and markets new high-technology products for special education. The computer's capacity for color, motion, sound, and voice is used as an aid for preacademic and academic instruction of young mentally retarded children. Products: a voice output computer aid should be available by December 1985.

* * *

UCLA Intervention Program's Microcomputer Project
23-10 Rehabilitation Center
1000 Veteran Avenue Contact: Kit Kehr
Los Angeles, California 90024 (213) 825-4821

An interdisciplinary team generates research ideas, discusses observations of children, modifies existing software and hardware, and designs original software for handicapped preschoolers. Group work with the computer is being studied, including optimal group size, tolerance of individual children for the activity, and the amount and quality of social interaction generated by group computer use. Studies of the behavior of normal three-year-olds provide a comparison group. A developmental framework to guide computer use for handicapped children will be designed. Products: developmentally appropriate and physically accessible software for youngsters with severe physical handicaps; Rockets to the Moon, The Dinosaur Game, Around the Town, and Wheels on the Bus (analogs to board games for individual, dyad, or group play); The

Well Padded Family (allows representational play and preposition work); Happy Me (body parts identification); Where Is Puff (prepositions); Early Concepts (matching, what's missing, same/different); Pic Talk (child picks and voice speaks selected nouns and verbs, people, feelings, etc.); a comprehensive review of hardware, software, and adaptive devices (free) which includes microcomputer "set-ups" for children and team members; and a review of 50 commercially available software programs for preschool children.

TECHNICAL ASSISTANCE PROJECTS

This section describes a variety of projects that can provide technical assistance (TA) on difficult special education or administrative applications of microcomputors. Some TA services are federally funded and available free of charge; some are provided at low cost from private nonprofit groups.

ABLEDATA
Springfield Center
for Independent Living
426 West Jefferson
Springfield, Illinois 62702

Contact: Richard Blakley
(217) 523-2587; toll-free in
Illinois, (800) 447-4221

Free database search service is available for parents, professionals, or disabled persons in need of information on adaptive equipment, assistive devices (including computer switches and peripherals), and rehabilitation material. ABLEDATA accesses a list of over 10,000 commercially available aids and products and can provide references to research or journal articles in special education and rehabilitation.

* * *

Center for Special Education Technology

Based at CEC:
1920 Association Drive
Reston, Virginia 22091
(703) 620-3660

Assisted by:
LINC Associates, Inc.
3857 N. High Street
Columbus, Ohio 43214

Assisted by:
JWK International
7617 Little River Turnpike
Annandale, Virginia 22003

Toll-free "Hot Line" Information Services:
1-800-345-TECH

SpecialNet User Name: TECH.CENTER

This national resource (free) collects information on technology in special education. A specialized information base is maintained on publications, resources, vendors, projects, products, and organizations of interest to parents, professionals, and handicapped persons. Products: TECH.LINE (SpecialNet), a closed electronic bulletin board that posts news and information; TECH.TALK (SpecialNet), an open bulletin board for technology information exchanges. Symposia on research and developments are held annually, and a taped message service, teleconferences, and bulletin boards on the Source and CompuServe (see page 39) are planned.

* * *

Computers to Help People, Inc.
Software Distribution Service
1221 W. Johnson Street
Madison, Wisconsin 53715

Contact: Kathy Mortell
(608) 257-5917

Severely disabled people are employed by this projects to copy, market, and distribute software at low cost. A list of products is available.

* * *

Council for Exceptional Children (CEC)
1920 Association Drive
Reston, Virginia 22091

Contact: Lynn Smarte
(703) 620-3660

CEC and its divisions offer information and training services and participate in several projects related to use of technology in special education. CEC houses the **Center for Special Education Technology** and assists the **Special Education Software Center** (listed here separately). Products: Exceptional Children, Teaching Exceptional Children, and Exceptional Child Education Resources are regular publications containing information on using computers in special education. A complete catalog of CEC products and services is also available.

The **Technology and Media Division** (TAM) of CEC, serves professionals, parents and handicapped people, internationally. TAM conducts workshops and conferences and can recommend consultants, speakers, and other technical assistance on use of microcomputers. TAM fees are $10 for CEC members. Contact: The Department of Member and Unit Services at CEC. Products: Journal of Special Education Technology (quarterly newsletter).

Project RETOOL: Microcomputer Applications in Special Education is part of CEC's Teacher Education Division, and offers four training sessions yearly for teacher educators in the application of microcomputers in special education. A network of teacher educators, called TED Tech, uses SpecialNet through Project RETOOL. Contact: Elizabeth McCellan, CEC project director.

Eric Clearinghouse on Handicapped and Gifted Children (ERIC/EC) is based at CEC and provides extensive computerized information services. Products: Summer 1984 ERIC/CEC Information Bulletin: Technology in Special Education provides abstracts on publications available from CEC and lists computer-search reprints of bibliographies relevant to topics in special education technology.

* * *

Education TURNKEY Systems, Inc.
Microcomputer Education Applications Network (MEAN)
256 North Washington Street
Falls Church, Virginia 22046

Contact: Charles Blaschke
SpecialNet User Name: TURNKEY

TURNKEY promotes high-quality products and services in educational technology, trains teachers and administrators in the use of microcomputers in special education, and provides low-cost market research to federal agencies and private clients on technology in special education. A database provides information on specific products as well as technology trends. Products: slide-tape training packages on the use of technology in special education (available early 1986); Modularized Student Management System (MSMS), a multipurpose administrative software package for developing and managing individual education plans, tracking students, and managing data; Special Projects Evaluation and Management System (SPEMS), a publication that describes a management model; Survey of Existing Courseware, a directory of special education software; Budget Manager, a program that allows tracking of 27 line items by program or project and compares projected to actuals (Apple); and COMPUTER and SOFTWARE, SpecialNet electronic bulletin boards open to all subscribers.

* * *

LINC Resources, Inc.
3857 North High Street
Columbus, Ohio 43214

Contact: Chuck Lynd
(614) 263-5462

LINC, a professionial marketing organization and information clearinghouse for special education resources, is one of the organizations responsible for developing and maintaining two major centers funded by the U.S. Office of Special Education Programs: the Special Education Software Center and the Center for Special Education Technology (see pages 34 and 31, respectively). Products: SpecialWare Directory of special education software (see page 44).

* * *

Regional Resource Centers (RRC) Program

Exceptional Child Center
UMC 68
Utah State University
Logan, Utah 84322

Contact: Carole Stowitschek
(801) 750-1171
SpecialNet User Name: UTAH.USU

RRCs are federally funded TA programs that help state directors of special education and their state and local designees develop and provide quality services for all handicapped children. Though all RRCs have a technology coordinator, the "Mountain Plains" RRC has a special emphasis on use of technology. Use SpecialNet (RRC.LIST) to obtain a list of names and addresses of all RRCs.

* * *

Special Education Software Center

Software Information and Searches
LINC Resources, Inc.
3857 North High Street
Columbus, Ohio 43214
Contact: Phylis Baker
(800) 327-5892

Technical Assistance
SRI International
Building B, Room 5312
333 Ravenswood Avenue
Menlo Park, California 94025
Contact: Teresa Middleton
(800) 223-2711

Free services are provided jointly by LINC, SRI International, and CEC. The Software Center gathers and disseminates information about software developed or adapted for handicapped people. However, it does not screen or evaluate software. (See Software Evaluation Projects, page 37). An annual Special Education Software Center Conference is held. Information can be obtained from CEC, 1920 Association Drive, Reston, Virginia 22091; (703) 620-3660.

Software Information and Searches (LINC). Type of application, special needs, handicapping condition, age, skill level, etc., can be searched via a modem hook-up (toll-free number to be announced). Center staff also consult on hardware, peripherals, and other equipment questions.

Technical Assistance (SRI). The Software Center staff members develop programming routines to upgrade software and review and critique programs according to developers' requests.

* * *

Technical Education Research Centers, Inc. (TERC)
1696 Massachusetts Avenue
Cambridge, Massachusetts 02138

Contact: Tim Barclay, Workshops
Peggy Kapisovsky, Publications
(617) 547-3890

TERC encourages the appropriate use of microcomputers in the classroom and laboratory and develops and distributes special education materials. Products: the Hands On newsletter contains information on special needs populations and a publications list (available on request). Workshops are available on a contract basis.

* * *

Trace Center
Trace Research and Development Center on Communication,
Control, and Computer Access for Handicapped Individuals
Waisman Center
1500 Highland Avenue
Madison, Wisconsin 53705-2280

Contact: (608) 262-6966

The center has extensive training and information resources and regularly offers workshops across the country on a variety of microcomputer applications for handicapped users, parents, and professionals. Trace maintains a clearinghouse of publications and information on resources, products, communication aids, equipment, toys, adaptives, switches, etc. Products: The International Software/Hardware Registry; an annotated bibliography of materials (free or at cost); and videotapes (loan) for training. Trace sponsors and promotes self-help and professional groups and newsletters.

* * *

Western Center for Microcomputers in Special Education, Inc.
1259 El Camino Real
Suite 275
Menlo Park, California 94025

Contact: Sue Swezey, Newsletter Editor
(415) 326-6997

Western Center can share expertise and assist in the effective acquisition and use of microcomputers. Products: The Catalyst, an 18-page quarterly newsletter, (annual subscriptions cost $15 for institutions and $10 for individuals). A 10 to 25 percent educational discount is available on selected systems, peripheral devices, control interfaces, and software.

SOFTWARE EVALUATION PROJECTS

The following projects have special education software reviews available, or have developed evaluation forms and processes.

STATE-LEVEL EVALUATION PROGRAMS

A consortium of four projects (following), funded through state PL 94-142 discretionary funds, have coordinated their efforts in buying, reviewing, and evaluating special-education software.

ConnSENSE
University of Connecticut, U-64
Storrs, Connecticut 06268
Contact: Chauncy Rucker
(203) 486-4031
ext. 4033

ConnSENSE publishes a free quarterly bulletin of software reviews and evaluations written by ConnSENSE and the three other software evaluation projects below (SECTOR, FDLRS/TECH, and MICC). A year-end review will list software evaluated in past bulletins. Back issues of the bulletin are also available.

SECTOR PROJECT
Developmental Center for the Handicapped
UMC-68
Utah State University
Logan, Utah 84322
Contact: Kim Allard
(801) 753-7973

The following products are available for national distribution: Courseware Evaluation, a compilation of reviews of 50 courseware programs; Specialized Applications for Special Educators, a collection of descriptions of technology for special needs (e.g., speech synthesis); management software; and tools for evaluating management software.

FDLRS/TECH
1450 Martin Blvd.
Merritt Island, Florida 32952
Contact: Eileen Pracek
(305) 631-1912

Available upon written request are lists of software appropriate to different groups of children with special needs. A list for preschoolers is included.

MICC
139 CRU
University of Kansas Medical Center
39th and Rainbow
Kansas City, Kansas 66103

Contact: Judy Wilson
(913) 588-5985

Funded through the Kansas Department of Special Education, MICC cooperates with the University of Kansas and local service programs to further the application of technology in special education and to coordinate statewide activities. The project established the KSIMC bulletin board on SpecialNet and has helped (through equipment purchase, subscriptions, and training) all Kansas LEAs, special purpose schools, and the state department get on-line. The board is currently open and can be used to access MICC's software evaluations. MICC can consult with other states about establishing a statewide telecommunication system.

* * *

National Winners of the Council for Exceptional Children's Software Search
CEC
1920 Association Drive
Reston, Virginia 22091

CEC (see page 32), with support of the Johns Hopkins University and the John F. Kennedy Institute, conducted a year-long national competition concerning special education software for instruction, environmental control/self-help, and management/assessment. Entries were judged in the various divisions of CEC. A publication is available which explains judging procedures and describes winners and those who received special mention. Addresses of manufacturers or individual developers are also given.

* * *

Microcomputer Software and Information for Teachers (MicroSIFT)
Northwest Regional Educational Laboratory
300 SW Sixth Avenue
Portland, Oregon 97204

Contact: (503) 248-6800

MicroSIFT provides a clearinghouse for information about microcomputer-based educational applications (K-12). One of its objectives is to develop and validate an evaluation process and instrument specifically suited to micro-based instructional materials. Information about the evaluation model and process is available from MicroSIFT. The Evaluator's Guide, a set of forms and guidelines developed by MicroSIFT, is available from ERIC (see pages

40-42), 1920 Association Drive, Reston, Virginia 22091 (use ERIC #ED 206330); also available from ICCE, 135 Education, University of Oregon, Eugene, Oregon 97403.

PUBLICATIONS AND PROJECTS CONCERNING ADAPTED TOYS AND EDUCATIONAL DEVICES

From Toys to Computers: Access for the Physically Disabled Child
by Christine Wright and Mare Nomura.

A good "how-to" book for adapting toys for use with various types of switches; it clarifies the progression from use of switches with different toys to microcomputer use for handicapped children. Parents find the book helpful in getting started with computers. Available from: Christine Wright, P. O. Box 700242, San Jose, California 95170.

* * *

Handicapped Children's Technological Services
P. O. Box 7
Foster, Rhode Island 02825 (401) 397-7666

Active stimulation devices for children are available from this project. A number of toys have been motorized and given controls easily handled by severely handicapped persons. Stimulating visual and auditory effects have been added to colorful devices. The switches, control leads, and timers used in the toys can also be applied to other devices (tape recorders, games, electrical appliances), so that people of all ages can increase physical skills and gain greater independence. Training workshops are available in the use of stimulation aids. Information is also available.

* * *

Homemade Battery-Powered Toys and Educational Devices for Severely Handicapped Children, 1980: A Resource Manual (1980).

This manual describes methods of making battery-powered toys or adapting toys for disabled children and offers suggestions for activities. Also available are kits to make pressure and head control switches. The author conducts workshops on switch construction and appropriate uses of adapted toys. Available from Linda J. Burkhart, 8503 Rhode Island Avenue, College Park, Maryland 20740; (301) 345-9152.

* * *

Toys for Special Children (1984).

This catalog lists sources of adapted toys and special switches and can provide a good means of beginning technological skills and building cause-effect understanding for very young or severely handicapped children. Available from Steven Kanor, 101 Lefurgy Avenue, Hastings-on-Hudson, New York 10706; (914) 478-0858.

ON-LINE ELECTRONIC COMMUNICATION

These selected "on-line" services exemplify the microcomputer's communication capacity. The services offer an extensive variety of futuristic services, including information or data bank services, electronic mail, and bulletin boards.

CompuServe
Micronet Personal Computer Division
5000 Arlington Centre Blvd. Contact: (800) 848-8199 (information)
Columbus, Ohio 43220 (800) 848-8990 (user service)

CompuServe provides extensive information services with over 900 databases on-line. The Handicapped User's Database has information on products, vendors, new technology developments, etc., for handicapped people. On-line group interaction around designated issues is a service called Issues Forum, managed by Georgia Griffith. Subscription cost $39.95; includes $30 credit towards connect charges.

* * *

ED-LINE
National School Public Relations Association (NSPRA)
1501 Lee Highway
Arlington, Virginia 22209

ED-LINE is NSPRA's electronic newsline. It is transmitted through The Source (1515 Anderson Road, McLean, Virginia 22101; new subscribers call (800) 336-3366). Subscription cost allows access to both ED-LINE and Source services. ED-LINE menu includes: Education USA Newsline (transmitted twice daily with past issues stored for research purposes); Federal Alert (legislation, regulations, funding); EdTECH Update (weekly newletter); Legal Briefs (supreme court decisions on education); RuraLine; National/Regional Networks Boards; Ed Exchange (an open bulletin board); and Useful Facts and Figures for NIE. Contact ED-LINE for a complete list. Subscriptions cost $150 for a

network member; $225 for a non-network member (fee includes the Source services but not cost of connect time).

* * *

SpecialNet
National Association of State Directors of Special Education (NASDSE)
2021 K Street, NW, Suite 315
Washington, DC 20006 Contact: (202) 296-1800

SpecialNet is the largest education-oriented computer-based communication network in the country. It includes electronic mail, bulletin boards, and data-bank information services. The majority of HCEEP projects with microcomputers subscribe to SpecialNet. SpecialNet has training guides and personal support for learning to use the system. On-site consultations are available at low cost, if requested. Questions and Answers about SpecialNet is a free brochure with a good description of services, a list of current bulletin boards, and answers to frequently asked questions. Subscriptions cost $200 yearly plus connect time (cost varies according to time of day and long-distance telephone rates.

SOURCES FOR PUBLICATIONS

ERIC Clearinghouse on Handicapped and Gifted Children
CEC, Department P45A
1920 Association Drive
Reston, Virginia 22091-1589

The following publications are available:

Information Bulletin: Technology in Special Education (summer 1984). Contains abstracts of the publications listed below:

Handbook of Microcomputers in Special Education. By M. Behrmann (1984). Use ERIC #294.

Proceedings of the National Conference on the Use of Microcomputers in Special Education. Edited by M. Behrmann, and L. Lahm (1984). Use ERIC #275.

Microcomputer Resource Book for Special Education. By D. Hagen (1984). Use ERIC #286.

Microcomputers in Special Education: Selection and Decision Making Process. By F. Taber (1983). Use ERIC #248.

SpecialWare Directory. By LINC Associates, Inc. (1983). Use ERIC #274.

Technology in Special Education. Teaching Exceptional Children. Vol. 16, No. 4 (summer 1984).

Computer Search Reprints, also available through CEC, are bibliographies with abstracts from both ERIC and ECER (Exceptional Child Resources) databases:

Computer-Assisted Instruction for Handicapped Children and Youth. Bibliography and 10 abstracts. Use ERIC #506.

Computer-Managed Instruction for Handicapped Students. Bibliography and 50 abstracts. Use ERIC #532.

Use of Computers in Regular and Special Education Teacher Education. Bibliography and 100 abstracts. Use ERIC #509.

* * *

ERIC Clearinghouse on Technology and Information Resources (IR)
School of Education
030 Huntington Hall
Syracuse University
Syracuse, New York 13210

Contact: Pamela McLaughlin
(315) 423-3640

The IR Update is a free semiannual newsletter available to anyone who requests to be put on the mailing list. The following products are also available:

ERIC Digests and Fact Sheets

Accessing ERIC with your Microcomputer, July 1984
Computer Literacy for Teachers, May 1984
Economics of Information in Education, November 1984
Electronic Networks, December 1983
Excellence through Educational Technology, September 1984
The Field of Educational Technology: A Dozen Frequently Asked Questions, April 1983
Managing Computer Software Collections, November 1984
Networking and Microcomputers, November 1984
A Review of Reviews of Research on Computer Assisted Instruction, April 1984
Teleconferencing in Education, November 1983

Mini-Bibliographies

Authoring Languages for CAI, March 1985
Courseware Evaluation for CAI, March 1985
Education and Training for On-Line Searching, June 1984
Interactive Video, July 1984
Media Specialists and the Curriculum, May 1985
Microcomputers in Education: General Issues, November 1983
Microcomputer Software Evaluation, February 1984
On-Line Public Access Catalogs, June 1984
Training Teachers to be Computer Literate, April 1983

* * *

Northwest Regional Educational Laboratory — Information Center
300 SW 6th Avenue
Portland, Oregon 97204

Contact: Nick L. Smith, Director
(503) 248-6800

This research contractor has available a variety of information resources relative to microcomputer use and evaluation in education. An Annotated Bibliography of Practitioner Aids, developed by the Research on Evaluation Program (ROEP), January 1984, includes a section on microcomputer aids. References include:

Computers Plus: The Organization, Operation, and Evaluation of an Intensive Summer Program Designed to Develop Computer Literacy Among Educators. By P. J. Gray and J. Tafel (1983). Describes the process of creating an intensive computer literacy experience for teachers and administrators. Use ROEP #94.

An Evaluator's Guide to Using DB Master: A Microcomputer Based File Management Program. By P. J. Gray (1983). Use ROEP #91.

Making Courseware Transparent: Beyond Initial Screening. By G. Della-Piana, and C. K. Della-Piana (1982). Explains methods of evaluating software and alternatives for portraying results. Use ROEP #76.

Materials on Using Microcomputers in Evaluation and Assessment. By P. J. Gray and D. Deck (1982). Contains workshop materials for word processing, database management, electronic spreadsheets, statistical analysis, telecommunications, and planning for microcomputer use. Use ROEP #89.

Evaluation Guides. A series of 10 guides or papers (five to 12 pages) on different aspects of program evaluation were developed with support from the National Institutes of Education. The following are included:

Microcomputers and Statistical Analysis Software. (#5) Key characteristics and selection of software, reference list.

Microcomputers: Data Base Management Software. (#7) Software characteristics, design and uses of database programs, selection guide, and refererences.

Microcomputers and Evaluation. (#1) Uses of microcomputers in planning and proposal development, study management, data collection and analysis, and reporting.

Microcomputers: Spreadsheet Software. (#9) Key characteristics, uses, selection, and references.

Microcomputers: Word Processing. (#3)

* * *

PUBLICATIONS

Computer Education: A Catalog of Projects Sponsored by the U.S. Department of Education. Susan S. Klein (Ed.) (1983).

This National Institute of Education publication contains an overview of the general types of projects that were ongoing during 1983 and summaries of 275 projects (with names and addresses of people to contact, including Department of Education project officers). The document is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

* * *

Computer Technology for the Handicapped in Special Education and Rehabilitation: A Resource Guide. By G. Nave, P. Browning, and J. Carter (1983 and 1985 editions).

The guide provides a bibliography of resources. An annotated, indexed reference list includes such topics as computer-assisted instruction, functional aids, microcomputer applications, service delivery, and management and research. Newsletters, periodicals, service providers, and relevant university programs are listed. The guide is available ($7) from ICCE (see page 48), Department CTA, University of Oregon, 1787 Agate Street, Eugene, Oregon 97403-1923; or call (503) 686-4414.

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Funded Projects Related to Technology and Marketing in Special Education. U.S. Special Education Programs (November 1984).

This document contains abstracts for all the projects related to educational technology and marketing funded by the U.S. Office of Special Education Programs (updated annually). Available from: Technology and Marketing Branch, Division of Educational Services, Special Education Programs, U.S. Department of Education, 400 Maryland Avenue SW, Room 3511-2313 Mary Switzer Building, Washington, DC 20202.

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Microcomputer Resource Book for Special Education. By Delores Hagen (1984).

This book focuses on use of the microcomputer as a tool in special education and the potential educational technology offers to handicapped persons. An overview to special education applications, a discussion of technology relevant to specific handicaps, lists of hardware, software, associations, and discussion on communication possibility are included. The author is one of the publishers of Closing the Gap and is a parent of a handicapped child. The resource book is written for computer users and is understandable without technical knowledge or programming skills. Available from Prentice-Hall, 140 Sylvan Avenue, Englewood Cliffs, New Jersey 07632, or call (261) 592-2000.

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Personal Computers and the Disabled. By Peter A. McWilliams (1984).

This overview, with some humor, includes a buying guide that discusses all types of microcomputers and related equipment. Applications and equipment for different types of handicapping conditions are also described. Available from Quantum Press/Doubleday, 245 Park Avenue, New York City 10167.

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SpecialWare Directory. LINC Resources (1983).

This catalog lists over 200 special education computer programs. Instructional software is cross-referenced by subject/skill area, educational level, type of handicapping condition, and hardware requirements. Available from: Oryx Press (800) 457-ORYX; also from CEC/ERIC (see page 40), (703) 620-3660 (use #274); or contact LINC, 3857 North High Street, Columbus, Ohio 43214.

Whole Earth Software Catalog, Second Edition (1985).

This catalog reviews commercial and public domain software and contains pertinent articles in the style of other popular Whole Earth Catalogs. The general focus includes information relevant to educators. Available from: 27 Gate 5 Road, Sausalito, California 94965; discounts are available.

Additional References

The following articles were recommended by HCEEP projects:

Activating Children Through Technology: Notes on Using Microcomputers with Very Young Children. By P. L. Hutinger (1984). In Proceedings from the 1984 Closing the Gap Conference. Closing the Gap, P. O. Box 68, Henderson, Minnesota 56044.

Computer Technology for Autistic Students. By M. V. Panyan (1984). Journal of Autism and Developmental Disorders, 14, 375-382. Review of literature on the use of computers with autistic children.

Making the World Work with Microcomputers: A Learning Prosthesis for Handicapped Infants. By R. P. Brinker and M. Lewis (1982). Exceptional Children, 49(2), 163-170.

The Microcomputer as a Perceptual Tool: Searching for Systematic Learning Strategies with Handicapped Infants. By R. P. Brinker (1984). In Microcomputers and Exceptional Children. New York City: Hayworth Press.

Microcomputer's Place in Special Education. By M. S. Thomas (1982). Exceptional Children, 49(2) (Special Issue).

Young Children and Microcomputers: Research Issues and Directions. By E. H. Brady and S. Hill. In Young Children, March 1984. Reprints from NAEYC, 1834 Connecticut Avenue NW, Washington, DC 20009.

ASSOCIATIONS, NEWSLETTERS, AND MAGAZINES

This section lists a selection of associations, organizations, and their newsletters or journals. Some are professional associations; others are consumer or microcomputer-user oriented. Some listings are specifically about use of technology; others are general special education publications with technology sections. In addition to these organizations, most communities have user groups for owners of different types of commercial computers. Groups typically share expertise and programming ideas, and exchange or sell hardware and software. User groups can be located by calling local computer distributors or retailers.

The magazines that were selected are a sampling of the rapidly growing numbers of commercial monthlies pertinent to special education or project management. Project MUSE (see page 30) has produced a more complete annotated list of journals and magazines with helpful hints on selection. For example, they suggest signing up for all free trial offers -- you can cancel after reviewing your trial issue and your name will get on the mailing lists for many special education or computer manufacturers. (A good news/bad news

proposition!) Call or write to MUSE, Macomb, Illinois, and ask for The Computer Magazine Maze Myriad: Computer Magazines for Educators.

Analysis and Intervention in Developmental Disabilities

This quarterly professional journal features a review of software for use in applied settings. Subscriptions cost $70. Pergamon Press, Inc., Fairview Park, Elmsford, New York 10523; (914) 592-7700.

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ASHE

This monthly journal's materials section has expanded to include reviews of computer software. Subscription costs are part of membership fees. Available from: American Speech - Language - Hearing Association, 10801 Rockville Pike, Rockville, Maryland 20852.

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Closing The GAP (CTG)
P. O. Box 68
Henderson, Minnesota 56044

CTG operates a resource training center with microcomputers, adaptive devices, peripherals, and special software for hands-on workshops designed for professionals, parents, and handicapped people. CTG also sponsors occasional large conferences. The CTG newsletter explores uses of computers for handicapped persons and special education students. Equipment, including peripherals and software, is reviewed, and a calendar of conferences and other events are regular features. Subscriptions to the newletter cost $18.

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The Committee on Personal Computers and the Handicapped (COPH-2)
2030 West Irving Park Road
Chicago, Illinois 60618 Contact: (312) 447-1813

This consumer organization provides its members with such services as the opportunity to share information, loan of a personal computer, free technical assistance, use of its library resources, and a subscription to Link and Go, its quarterly newsletter. Annual membership is $8, and the first mailing is a kit of materials explaining the various services offered.

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Communication Outlook

This quarterly newsletter on electronic aids is published jointly by the International Society for Augmentation and Alternative Communication, the Artificial Language Laboratory, and the Trace Center (see page 35). Available from: Artificial Language Laboratory, Computer Science Department, Michigan State University, East Lansing, Michigan 48824.

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Computer Shopper

This publication contains classified ads for used computers, mail-order software, user groups, bulletin boards, and meetings. Information shared on public domain and low-cost software is available. Subscriptions cost $15 yearly (12 issues). Available from: Patch Publishing Company, Inc., 407 South Washington Avenue, P. O. Box F, Titusville, Florida 32781-3211; (800) 327-9926.

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Developmental Equipment
900 Winnetta Terrace
Lake Zurich, Illinois 60047

Contact: Don Johnson
(312) 438-3476

This company specializes in non-speed communication and computer access equipment (adaptive devices, switches, toys, etc.). A quarterly newsletter (free) contains general interest articles and reviews commercial products, related software, and print curricular materials. A computer-access catalog is also available.

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Educational Technology

This professional journal for educators covers all types of educational technology and includes product and book reviews. Subscriptions cost $49 (12 issues). Available from: Prentice-Hall, 140 Sylvan Avenue, Englewood Cliffs, New Jersey 07632.

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Electronic Education

This publication is written for teachers, administrators, and media specialists and includes articles on computer literacy, technological innovations, and funding opportunities. One issue each year is a Buyer's Guide to help educators make purchasing decisions. Subscriptions cost $18 (eight issues). Available from: Metal Treating Institute, 1311 Executive Center Drive, Suite 220, Tallahassee, Florida 32304.

Exceptional Technology

This monthly publication (free) focuses on educational technology and resources for school-age children. However, general information and products may be of interest to those involved with early childhood special education. Available from: Dade County Public Schools, Florida Diagnostic & Learning Resources System, 9220 S.W. 52nd Terrace, Miami, Florida 33165; or call Eydie Sloane, Computer Training Specialist, (305) 274-3501.

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The HCEEP Microcomputer NEWS

This periodic newsletter promotes networking and information exchange among a group of microcomputer users in HCEEP. Project applications and technological advances are described. Available from: PEPSI Project (see page 17), Summit Center, #6 Hospital Plaza, Clarksburg, Virginia 26301. Contact Chris Hansen at (304) 623-5661 to contribute an article, share ideas, or get on the mailing list.

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International Council for Computers in Education (ICCE)
University of Oregon
1787 Agate Street
Eugene, Oregon 97403-1923

Contact: Anita Best
(503) 686-4414

ICCE is a nonprofit professional association for educators dedicated to improving the use of technology in education. An annual membership of $21.50 includes nine issues of The Computing Teacher, a journal that includes information pertinent to special education. Theme issues on special needs (February 1983) and equity (April 1984) are also available. Two booklets that specifically address special education are Learning Disabled Students and Computers: A Teacher's Guide Book ($2.50) and Computer Technology for the Handicapped in Special Education and Rehabilitation: A Resource Guide ($7), (see page 43). A publications catalog with ordering information and quantity discount prices is available on request. One of the special interest groups (SIG) of ICCE is for special educators and parents of children with special needs. The SIG Bulletin, published quarterly, includes topics of interest to emerging special interest groups and serves as a forum for the sharing of ideas and concerns.

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Journal of Special Education Technology

This journal is a quarterly publication of the Association for Special Education Technology. Subscriptions cost $25 yearly (includes membership in the association, the journal, and a newsletter. Available from Exceptional Child Center, Utah State University, Logan, Utah 84322.

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Micro Notes Newsletter

This quarterly newsletter highlights research, software reviews, and information pertinent to instructional use of microcomputers with young children. Upcoming events and new publications and documents available through ERIC (see page 40-42) are noted. Information services are also available through the ERIC Clearinghouse on Early Childhood Elementary Education. Written or telephone queries are given individual attention. Subscriptions cost $8. Available from: ERIC Clearinghouse on Early Childhood and Elementary Education, University of Illinois, 805 W. Pennsylvania Avenue, Urbana, Illinois 61801; or call Dianne Rothenberg, (217) 333-1386.

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Minnesota Educational Computer Consortium (MECC)
3490 Lexington Avenue North
St. Paul, Minnesota 55112 Contact: (612) 481-3500

MECC is one of the older professional associations involved with educational computer technology. It provides a wide array of services and has developed products, training materials, software, and courseware. MECC has a preschool math and reading software program adaptable for cognitively ready children with special needs. MECC runs workshops and conferences. Their newsletter, The Network, reviews products and has a calender of events.

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National Easter Seal Society (NESS)
2023 West Ogden Avenue Contact: Rita McGaughey
Chicago, Illinois 60612 (312) 243-8400
Jean Bartholomew, newsletter ed.

The Easter Seal Research Foundation seeks grant proposals that integrate research with the development or adaption of technologies (including access to computer technologies) that help persons with disabilities to be independent. Maximum funding is $25,000 per year for up to three years. Applications must be received by March 1 or August 1 each year. A new addition to other informal and supportive services for handicapped people, the newsletter Computer Disability News: The Computer Resource Quarterly for People with Disabilities (free upon request) highlights programs, products, publications, and conferences.

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School Microcomputing Bulletin

This newsletter covers microcomputing concepts, trends, applications, and developments for educators. Subscriptions cost $28 yearly (10 issues). Available from: Learning Publications, Inc., P. O. Box 1326, Holmes Beach, Florida 33509; (616) 372-1045.

Technological Horizons in Education (T.H.E.) Journal

This is the oldest periodical in the field of educational computing and is an excellent resource magazine for educators. The journal reviews software, hardware, and applications for grades K-college. Subscriptions cost $15 yearly (six issues); a limited number of free subscriptions are available for educators. Available from: P. O. Box 3117, Woburn, Massachusetts 01888; (714) 261-0366.

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Trade-a-Comp, Trade-a-Disk

This monthly publication is geared for anyone wanting to buy, sell, or trade new or used microcomputer hardware and software. Subscriptions cost $18. Available from: Trade-a-Comp, Trade-a-Disk, P. O. Box 671, Bethel Park, Pennsylvania 15102.

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